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## THE NEUROBIOLOGY OF SEXUAL ORIENTATION

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**Introduction:** Homosexuality is a constantly debated issue as to whether it is determined at birth or a choice (nature vs. nurture). The works of the Kinsey Reports and Dr. Evelyn Hooker published in the 1950s resulted in the removal of homosexuality from the DSM4 in 1973. Since then, it has been mentioned as an illness only in the context of being a putative exacerbating factor in anxiety states. Recent studies reveal a clear cut neurobiology to sexual orientation.

**Methods:** Neurobiologist Simon LeVay conducted a study of brain tissue samples from 41 human autopsies performed at several hospitals in New York and California. He found a significant size difference of the interstitial nuclei of the anterior hypothalamus between homosexual and heterosexual men.

**Results:** In addition, Dr. Ivanka Savic-Berglund and Dr. Per Lindström of the Karolinska Institute, Stockholm, performed fMRI and PET measurements of cerebral blood flow. Using volumetric studies, they found significant cerebral size differences between homosexual and heterosexual subjects; the brains of homosexual men resembled heterosexual women and homosexual women resembled heterosexual men. Pheromonal studies also have added to the scientific knowledge of sexuality. Sex-atypical connections were found among homosexual participants. Amygdala connectivity differences were found to be statistically significant and provided evidence towards sexual dimorphism between heterosexual and homosexual subjects. Extensive controls were performed during testing to exclude analytical variability.

**Conclusions:** A totally evidence-based medicine presentation will provide current data regarding homosexuality showing differences, or similarities, between the brains of homosexuals and heterosexuals.